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EXAMINER	
HOLDER, ANNER N	

ART UNIT	PAPER NUMBER
2621	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)
	10/736,434	KWENTUS ET AL.
	Examiner	**Art Unit**
	ANNER HOLDER	2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11/20/09*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29 and 68-83* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-29 and 68-83* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12/15/03* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date ___.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 07/20/09 have been fully considered but they are not persuasive. As to the Applicant's augments the Examiner respectfully disagrees. Kummer discloses a digital to analog converter which is implemented within a satellite receiver. [fig. 1(7) - DAC; col. 2 lines 7-19] Schaffner discloses a satellite transmodulation system which performs both modulation and demodulation. Schaffner and Kummer are within the same field of endeavor. The combination of Schaffner and Kummer fairly suggests and teaches the limitations as claimed.

2. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Schaffner discloses a satellite transmodulation system which performs both modulation and demodulation. Kummer discloses a satellite receiver system. Schaffner and Kummer are within the same field of endeavor. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the Digital to Analog Conversion teachings of Kummer with the transmodulation device of Schaffner allowing for improved coding efficiency and display of data.

3. Applicant's arguments, see page 17, 35 USC 112, filed 07/20/09, with respect to claim 9 have been fully considered and are persuasive. The rejection of claim 9 has been withdrawn.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 4-6, 10, 11, 68, and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schaffner et al. US 6,104,908 in view of Kummer US 6,151,479.

6. As to claim 1, Schaffner teaches an input that receives a first signal having a first signal type; [fig. 2 (14) – element 14 receives a signal in a first format; abstract; col. 3 lines 42 - col. 4 lines 20] a transcoder functional block that transforms the first signal having the first signal type thereby generating a second signal having a second signal type, [fig. 2 (22 or 26) - acts a transcoder modulating the signal into a second format; abstract; col. 3 lines 42 - col. 4 lines 20; col. 2 lines 30-44] <u>wherein the transcoder functional block includes: a satellite receiver that is operative to decode the first signal having the first signal type;</u> [fig. 2 (22); col. 3 lines 42-53] <u>a modulator, connected to an output of the satellite receiver, that is operative to modulate decoded output from the satellite receiver</u>; [fig. 2 (22); col. 3 lines 42-53] <u>and a DAC (digital to analog converter), connected to an output of the modulator, that is operative to transform the second signal</u>

having the second signal type from a digital into an analog signal; an output that transmits the second signal having the second signal type; [fig. 2; col. 3 lines 42 - col. 4 lines 20; col. 4 lines 33-66; col. 2 lines 30-44] wherein the first signal type includes a first modulation, a first code rate, a first symbol rate, and a first data rate; [col. 3 lines 42 - col. 4 lines 20; col. 4 lines 33-66; col. 2 lines 30-44] and wherein the second signal type includes at least one of a second modulation, a second code rate, a second symbol rate, and a second data rate. [col. 3 lines 42 - col. 4 lines 20; col. 4 lines 33-66; col. 2 lines 30-44]

Schaffner does not explicitly teach the second functional block includes a DAC (Digital to Analog Converter) that is operable to transform the second signal having the second signal type from a digital signal into an analog signal.

Kummer teaches a modulator and a DAC (Digital to Analog Converter) that is operable to transform the second signal having the second signal type from a digital signal into an analog signal. [fig. 1 (1) – modulator, (7) - DAC; col. 2 lines 7-19]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the Digital to Analog Conversion teachings of Kummer with the transmodulation device of Schaffner allowing for improved coding efficiency and display of data.

7. As to claim 4, Schaffner (modified by Kummer) teaches the transcoder functional block is implemented within an integrated circuit. [Schaffner - fig. 1 (14, 12); fig. 2 (14, 12); col. 3 lines 29-58; col. 4 lines 1-20,51-66]

8. As to claim 5, Schaffner (modified by Kummer) teaches the transcoder functional block includes a first functional block and a second functional block; and the first functional block and the second functional block are functional blocks within the integrated circuit. [Schaffner - fig. 1 (14, 12); fig. 2 (14, 12); col. 3 lines 29-58; col. 4 lines 1-20,51-66]

9. As to claim 6, Schaffner teaches the first functional block is a satellite receiver that is operable to decode the first signal having the first signal type. [fig. 2 (22 and 26)]

Schaffner does not explicitly teach the second functional block includes a DAC (Digital to Analog Converter) that is operative to transform the second signal having the second signal type from the digital signal into the analog signal.

Kummer teaches a modulator and a DAC (Digital to Analog Converter) that is operable to transform the second signal having the second signal type from a digital signal into an analog signal. [fig. 1 (1) – modulator, (7) - DAC; col. 2 lines 7-19]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the Digital to Analog Conversion teachings of Kummer with the transmodulation device of Schaffner allowing for improved coding efficiency and display of data.

10. As to claim 10, Schaffner (modified by Kummer) teaches the transcoder is implemented within at least one of a satellite communication system, an HDTV (High Definition Television) communication system, a cable television system, and a cable modem communication system. [Schaffner - fig. 1 (16); fig. 2 (16); vol. 1lines 10-16, 57-62;col. 2 lines 30-44; col. 3 lines 29-41 – satellite communication system]

11. As to claim 11, Schaffner (modified by Kummer) teaches the transcoder functional block includes a DVB (Digital Video Broadcasting) encoder/modulator [Schaffner - fig. 2 (14, 22); col. 3 lines 42-58] that ensures that the second signal having the second signal type is a DVB STB (Set Top Box) compatible signal. [Schaffner - fig. 2 (12, 32); col. 4 lines 33-66]

12. As to claim 68, see discussion of claim 1 above for common subject matter.

13. As to claim 73, see discussion of claim 6 above for common subject matter.

14. Claims 2, 16, 17, 22, 69, 70, 76-77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schaffner et al. US 6,104,908 in view of Kummer US 6,151,479 in view of Mogre et al. US 6,987,543 B1 further in view Tilford et al. US 5,915,020.

15. As to claim 2, Schaffner (modified by Kummer) teaches the limitations of claim 1.

Schaffner (modified by Kummer) does not explicitly the first signal type is a turbo coded signal that includes an 8 PSK (Phase Shift Keying) modulation type, a code rate of 2/3, a symbol rate of approximately 21.5 Msps (Mega-symbols per second), and a data rate of approximately 41 Mbps (Mega-bits per second).

Mogre teaches the first signal type is a turbo coded signal [abstract; col. 1 lines 49-51; fig. 1 (110); col. 2 lines 29] that includes an 8 PSK (Phase Shift Keying) modulation type, [col. 5 lines 20-22; fig. 1 (114)] a code rate of 2/3, [col. 6 lines 35-58; fig. 13] a symbol rate of approximately 21.5 Msps (Mega-symbols per second), [col. 6 lines 35-58; fig. 13] and a data rate of approximately 41 Mbps (Mega-bits per second). [col. 6 lines 35-58; fig. 13]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Mogre with the device Schaffner (modified by Kummer) allowing improved broadcast transmission.

Schaffner (modified by Kummer and Mogre) does not explicitly teach (a) a QPSK (Quadrature Phase Shift Keying) modulation type, a code rate of 7/8, a symbol rate of approximately 20 Msps, and a data rate of approximately 32.25 Mbps.

Tilford teaches (a) a QPSK (Quadrature Phase Shift Keying) modulation type, a code rate of 7/8, a symbol rate of approximately 20 Msps, and a data rate of approximately 32.25 Mbps. [col. 5 lines 5-8; col. 6 lines 60-67]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Tilford with the device of Schaffner (modified by Kummer and Mogre) allowing improved broadcast transmission.

16. As to claim 16, see discussion of claims 1 and 2 above for common subject matter.

17. As to claim 17, see discussion of claim 11 above for common subject matter.

18. As to claim 22, Schaffner (modified by Kummer, Mogre and Tilford) teaches the first signal type is a turbo coded signal. [Mogre - abstract; col. 1 lines 49-51; fig. 1 (110); col. 2 lines 29]

19. As to claim 69, see discussion of claim 2 above.

20. As to claim 70, see the discussion of claim 22 above.

21. As to claim 76, see the discussion of claim 22 above.

22. As to claim 77, Schaffner (modified by Kummer, Mogre and Tilford) teaches the first functional block includes a satellite receiver that is operable to decode the first signal having the first signal type; [Schaffner - fig. 2 (30); col. 2 lines 45-57] a modulator and a DAC (Digital to Analog Converter) that is operable to transform the second signal having the second signal type from a digital signal into an analog signal. [fig. 1 (1) – modulator, (7) - DAC; col. 2 lines 7-19]

23. Claims 3, 23, 24, 29, 71, 80-81 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schaffner et al. US 6,104,908 in view of Kummer US 6,151,479 in view of Mogre et al. US 6,987,543 B1 in view of Eroz et al. US 6,829,308 B2 further in view Santoru US 6,975,837 B1.

24. As to claim 3, Schaffner (modified by Kummer) teaches the limitations of claim 1. Schaffner (modified by Kummer) does not explicitly the first signal type is a LDPC (Low Density Parity Check) coded signal that includes an 8 PSK (Phase Shift Keying) modulation type, a code rate of 2/3, a symbol rate of approximately 20 Msps (Mega-symbols per second), and a data rate of approximately 40 Mbps (Mega-bits per second).

Mogre teaches an 8 PSK (Phase Shift Keying) modulation type, [col. 5 lines 20-22; fig. 1 (114)] a code rate of 2/3, [col. 6 lines 35-58; fig. 13] a symbol rate of approximately 21.5 Msps (Mega-symbols per second), [col. 6 lines 35-58; fig. 13] and a data rate of approximately 41 Mbps (Mega-bits per second). [col. 6 lines 35-58; fig. 13]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Mogre with the device Schaffner allowing improved broadcast transmission.

Schaffner (modified by Kummer and Mogre) does not explicitly teach LDPC (Low Density Parity Check) coded signal.

Eroz teaches LDPC (Low Density Parity Check) coded signal. [abstract; col. 2 lines 25-44; col. 4 lines 32-44; col. 5 lines 52-60]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Eroz with the device of Schaffner (modified by Kummer and Mogre) allowing for efficient support of data rates. [col. 2 lines 16-21]

Schaffner (modified by Kummer, Mogre and Eroz) does not explicitly teach a QPSK (Quadrature Phase Shift Keying) modulation type, a code rate of 6/7, a symbol rate of approximately 20 Msps, and a data rate of approximately 30.5 Mbps.

Santoru teaches a QPSK (Quadrature Phase Shift Keying) modulation type, a code rate of 6/7, a symbol rate of approximately 20 Msps, and a data rate of approximately 30.5 Mbps. [col. 8 lines 15-30; fig. 4]

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teachings of Santoru with the device of Schaffner (modified by Kummer, Mogre and Eroz) allowing improved broadcast transmission.

25. As to claim 23, see the discussion of claim 3 above.

26. As to claim 24, see discussion above of claim 11 for common subject matter.

27. As to claim 29, Schaffner (modified by Kummer, Mogre, Eroz and Santoru) teaches the first signal is an LDPC coded signal. [Eroz - abstract; col. 2 lines 25-44; col. 4 lines 32-44; col. 5 lines 52-60]

28. As to claim 71, see the discussion of claim 3 above.

29. As to claim 72, Schaffner (modified by Kummer, Mogre, Eroz and Santoru) teaches the first signal is a turbo coded signal. [Mogre - abstract; col. 1 lines 49-51; fig. 1 (110); col. 2 lines 29]

30. As to claim 80, see the discussion of claim 3 above.

31. As to claim 81, Schaffner (modified by Kummer, Mogre, Eroz and Santoru) teaches the first functional block includes a satellite receiver that is operable to decode the first signal having the first signal type. [Schaffner - fig. 2 (30); col. 2 lines 45-57] a modulator and a DAC (Digital to Analog Converter) that is operable to transform the second signal having the second signal type from a digital signal into an analog signal. [Kummer -fig. 1 (1) – modulator, (7) - DAC; col. 2 lines 7-19]

32. Claims 7, 8, and 74-75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schaffner et al. US 6,104,908 in view of Kummer US 6,151,479 in view of Block et al. US 5,774,497 further in view of Bertram et al. US 6,996,098 B2.

33. As to claim 7, Schaffner (modified by Kummer) teaches the limitations of claim 4. Schaffner (modified by Kummer) does not explicitly teach the first functional block includes a transport processor that includes a PID (Program Identification) filtering functional block, a PCR (Program Clock Reference) time stamp correction functional

block, and a null packet insertion functional block; the PID filtering functional block is operable to throw away data in the first signal having the first signal type; the PCR time stamp correction functional block is operable to keep a time base of the first signal having the first signal type constant; the null packet insertion functional block is operable to insert null packets into the second signal having the second signal type thereby ensuring a constant data rate of the second signal having the second signal type.

Block teaches the first functional block includes a transport processor [col. 3 lines 13-15] that includes a PID (Program Identification) filtering functional block, [col. 6 lines 41-55] a PCR (Program Clock Reference) time stamp correction functional block, [col. 3 lines 58-66; abstract; col. 2 lines 3-14, 30-39; col. 4 lines 11-20] the PID filtering functional block is operable to throw away data in the first signal having the first signal type; the PCR time stamp correction functional block is operable to keep a time base of the first signal having the first signal type constant. [col. 3 line 58 - col. 4 line 3]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Block with the device of Schaffner (modified by Kummer) allowing for improved signal processing.

Schaffner (modified by Kummer and Block) does not explicitly teach the null packet insertion functional block is operable to insert null packets.

Bertram teaches the null packet insertion functional block is operable to insert null packets. [col. 3 line 58 - col. 4 line 13]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Bertram with the device of Schaffner (modified by Kummer and Block) allowing for improved transmission of data.

34. As to claim 8, Schaffner (modified by Block, Bertram and Kummer) teaches the transport processor is an MPEG-2 (Motion Picture Expert Group, level 2) transport processor.

35. As to claim 74, see discussion of claim 7 above for common subject matter.

36. As to claim 75, see discussion of claim 8 above for common subject matter.

37. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schaffner et al. US 6,104,908 in view of Kummer US 6,151,479 further in view of Bellwood et al. US 6,401,132 B1.

38. As to claim 9, Schaffner (modified by Kummer) teaches transcoder is implemented as at least one of a one to many transcoder, a uni-directional transcoder, and a bi-directional transcoder; [fig. 2 (22 or 26) - acts a transcoder modulating the signal into a second format; abstract; col. 3 lines 42 - col. 4 lines 20; col. 2 lines 30-44] the first signal having the first signal type thereby generating the second signal having the second signal type and a third signal having the third signal type; [fig. 2 (22 or 26) - acts a transcoder modulating the signal into a second format; abstract; col. 3 lines 42 - col. 4 lines 20; col. 2 lines 30-44] the uni-directional transcoder is operable to transform the first signal having the first signal type thereby generating the second signal having the second signal type when communicating in a first direction with respect to the

transcoder. [fig. 2 (22 or 26) - acts a transcoder modulating the signal into a second format; abstract; col. 3 lines 42 - col. 4 lines 20; col. 2 lines 30-44]

Schaffner (modified by Kummer) does not explicitly teach the one to many transcoder; the bi-directional transcoder; and the bi-directional transcoder is also operable to transform the fourth signal having the fourth signal type thereby generating the fifth signal having the fifth signal type when information is communicated in a second direction with respect to the transcoder.

Bellwood teaches the one to many transcoder; the bi-directional transcoder; [figs. 3-4; abstract; col. 5 lines 47-63] and the bi-directional transcoder is also operable to transform the fourth signal having the fourth signal type thereby generating the fifth signal having the fifth signal type when information is communicated in a second direction with respect to the transcoder. [figs. 3-4; abstract; col. 5 lines 47-63; col. 6 lines 3-35]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Bellwood with the device of Schaffner (modified by Kummer) allowing for improved signal processing.

39. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schaffner et al. US 6,104,908 in view of Kummer US 6,151,479 in view of Mogre et al. US 6,987,543 B1 further in view of Tomasz et al. US 6,031,878 in view of Kummer US 6,151,479.

40. As to claim 12, Schaffner (modified by Kummer) teaches the limitations of claim 1.

Schaffner (modified by Kummer) does not explicitly teach a satellite signal, being a turbo coded signal and having an 8 PSK (Phase Shift Keying) modulation type, that is provided to a CMOS (Complementary Metal Oxide Semiconductor) satellite tuner that is operable to perform tuning and down-converting of the satellite signal to generate an analog baseband signal having I, Q (In-phase, Quadrature) components; the first functional block is an 8 PSK (Phase Shift Keying) turbo code receiver; the analog baseband signal is provided to the 8 PSK turbo code receiver that is operable to decode the analog baseband signal thereby generating a decoded baseband signal; the analog baseband signal is the first signal having the first signal type that is provided to the transcoder functional block; the transcoder functional block includes a DVB (Digital Video Broadcasting) encoder/modulator that is operable to transform the first signal having the first signal type thereby generating the second signal having the second signal type; an up-converter functional block that is operable to up-convert the analog IF signal to an L-band signal having a frequency in a range of 950 MHz to 2150 MHz; and the L-band signal is a DVB STB (Set Top Box) compatible signal.

Mogre teaches a satellite signal, being a turbo coded signal [abstract; col. 1 lines 49-51; fig. 1 (110); col. 2 lines 29] and having an 8 PSK (Phase Shift Keying) modulation type, [col. 5 lines 20-22; fig. 1 (114)] the first functional block is an 8 PSK (Phase Shift Keying) [col. 5 lines 20-22; fig. 1 (114)] turbo code receiver. [abstract; col. 1 lines 49-51; fig. 1 (110); col. 2 lines 29]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Mogre with the device Schaffner (modified by Kummer) allowing improved broadcast transmission.

Schaffner (modified by Mogre) does not explicitly teach a CMOS (Complementary Metal Oxide Semiconductor) satellite tuner that is operable to perform tuning and down-converting of the satellite signal to generate an analog baseband signal having I, Q (In-phase, Quadrature) components; the transcoder functional block includes a DVB (Digital Video Broadcasting) encoder/modulator that is operable to transform the first signal having the first signal type thereby generating the second signal having the second signal type; the second functional block includes a modulator and a DAC (Digital to Analog Converter) that is operable to transform the second signal having the second signal type from a digital signal into an analog IF (Intermediate Frequency) signal; an up-converter functional block that is operable to up-convert the analog IF signal to an L-band signal having a frequency in a range of 950 MHz to 2150 MHz; and the L-band signal is a DVB STB (Set Top Box) compatible signal.

Tomasz teaches a CMOS (Complementary Metal Oxide Semiconductor) satellite tuner that is operable to perform tuning and down-converting [abstract; col. 2 lines 15-32] of the satellite signal to generate an analog baseband signal having I, Q (In-phase, Quadrature) components; [abstract; col. 2 lines 15-32; col. 4 lines 8-21] an up-converter functional block that is operable to up-convert the analog IF signal to an L-band signal having a frequency in a range of 950 MHz to 2150 MHz; [abstract; col. 1

lines 30-40; col. 4 lines 20-21; col. 3 lines 2-3] and the L-band signal is a DVB STB (Set Top Box) compatible signal. [abstract; col. 1 lines 30-40; col. 5 lines 23-33]

It would have been obvious to one of ordinary skill in the art at the invention was made to combine the teachings of Tomasz with the device Schaffner (modified by Kummer and Mogre) allowing for improved image quality.

41. Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schaffner et al. US 6,104,908 in view of Kummer US 6,151,479 in view of Mogre et al. US 6,987,543 B1 in view of Tomasz et al. US 6,031,878 in view of Kummer US 6,151,479 further in view of Gurantz et al. US 7,130,576 B1.

42. As to claim 13, Schaffner (modified by Kummer, Mogre, and Tomasz) teaches the limitations of claim 12.

Schaffner (modified by Kummer, Mogre, and Tomasz) does not explicitly teach a microcontroller or a state machine that is operable to coordinate the communication and control of a Set Top Box (STB), to which the transcoder is communicatively coupled, and an LNB (Low Noise Block Converter).

Gurantz teaches a microcontroller or a state machine [fig. 2 (255); col. 4 lines 35-40] that is operable to coordinate the communication and control of a Set Top Box (STB), [fig. 2 (240); col. 4 lines 42-50; col. 6 line 62 - col. 7 line 2] to which the transcoder is communicatively coupled, and an LNB (Low Noise Block Converter). [fig. 2; col. 4 lines 27-40; fig. 3; col. 5 lines 31-42]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Gurantz with the device of Schaffner (modified by Kummer Mogre, and Tomasz) allowing for improved bandwidth usage.

43. As to claim 14, Schaffner (modified by Kummer, Mogre, Tomasz, and Gurantz) teaches a first transceiver that interfaces the microcontroller or a state machine [Gurantz - fig. 2 (255); col. 4 lines 35-40] to the LNB; [Gurantz - fig. 2; col. 4 lines 27-40] and a second transceiver that interfaces the microcontroller or a state machine [Gurantz - fig. 2 (255); col. 4 lines 35-40] to the STB. [Gurantz - fig. 2 (240); col. 4 lines 42-50; col. 6 line 62 - col. 7 line 2]

44. As to claim 15, Schaffner (modified by Kummer, Mogre, Tomasz, and Gurantz) teaches each of the first transceiver and the second transceiver is a DiSEqC (Digital Satellite Equipment Control) transceiver. [Gurantz- col. 10 lines 6-18]

45. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schaffner et al. US 6,104,908 in view of Kummer US 6,151,479 in view of Mogre et al. US 6,987,543 B1 further in view Tilford et al. US 5,915,020 further in view of Tomasz et al. US 6,031,878.

46. As to claim 18, Schaffner (modified by Kummer, Mogre and Tilford) teaches the limitations of claim 16.

Schaffner (modified by Kummer, Mogre and Tilford) does not explicitly teach does not explicitly teach a CMOS (Complementary Metal Oxide Semiconductor) satellite tuner that is operable to perform tuning and down-converting of the satellite signal to generate

an analog baseband signal having I, Q (In-phase, Quadrature) components; the transcoder functional block includes a DVB (Digital Video Broadcasting) encoder/modulator that is operable to transform the first signal having the first signal type thereby generating the second signal having the second signal type; an up-converter functional block that is operable to up-convert the analog IF signal to an L-band signal having a frequency in a range of 950 MHz to 2150 MHz; and the L-band signal is a DVB STB (Set Top Box) compatible signal.

Tomasz teaches a CMOS (Complementary Metal Oxide Semiconductor) satellite tuner that is operable to perform tuning and down-converting [abstract; col. 2 lines 15-32] of the satellite signal to generate an analog baseband signal having I, Q (In-phase, Quadrature) components; [abstract; col. 2 lines 15-32; col. 4 lines 8-21] an up-converter functional block that is operable to up-convert the analog IF signal to an L-band signal having a frequency in a range of 950 MHz to 2150 MHz; [abstract; col. 1 lines 30-40; col. 4 lines 20-21; col. 3 lines 2-3] and the L-band signal is a DVB STB (Set Top Box) compatible signal. [abstract; col. 1 lines 30-40; col. 5 lines 23-33]

It would have been obvious to one of ordinary skill in the art at the invention was made to combine the teachings of Tomasz with the device Schaffner (modified by Kummer, Mogre and Tilford) allowing for improved image quality.

47. Claims 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schaffner et al. US 6,104,908 in view of Kummer US 6,151,479 in view of Mogre et al.

US 6,987,543 B1 further in view Tilford et al. US 5,915,020 in view of Tomasz et al. US 6,031,878 further in view of Gurantz et al. US 7,130,576 B1.

48. As to claim 19, Schaffner (modified by Kummer, Mogre, Tilford, and Tomasz) teaches the limitations of claim 18.

Schaffner (modified by Kummer, Mogre, Tilford, and Tomasz) does not explicitly teach a microcontroller or a state machine that is operable to coordinate the communication and control of a Set Top Box (STB), to which the transcoder is communicatively coupled, and an LNB (Low Noise Block Converter).

Gurantz teaches a microcontroller or a state machine [fig. 2 (255); col. 4 lines 35-40] that is operable to coordinate the communication and control of a Set Top Box (STB), [fig. 2 (240); col. 4 lines 42-50; col. 6 line 62 - col. 7 line 2] to which the transcoder is communicatively coupled, and an LNB (Low Noise Block Converter). [fig. 2; col. 4 lines 27-40; fig. 3; col. 5 lines 31-42]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Gurantz with the device of Schaffner (modified by Kummer, Mogre, Tilford, and Tomasz) allowing for improved bandwidth usage.

49. As to claim 20, Schaffner (modified by Kummer, Mogre, Tilford, Tomasz, and Gurantz) teaches a first transceiver that interfaces the microcontroller or a state machine [Gurantz - fig. 2 (255); col. 4 lines 35-40] to the LNB; [Gurantz - fig. 2; col. 4 lines 27-40] and a second transceiver that interfaces the microcontroller or a state

machine [Gurantz - fig. 2 (255); col. 4 lines 35-40] to the STB. [Gurantz - fig. 2 (240); col. 4 lines 42-50; col. 6 line 62 - col. 7 line 2]

50. As to claim 21, Schaffner (modified by Kummer, Mogre, Tilford, Tomasz, and Gurantz)) teaches each of the first transceiver and the second transceiver is a DiSEqC (Digital Satellite Equipment Control) transceiver. [Gurantz- col. 10 lines 6-18]

51. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schaffner et al. US 6,104,908 in view of Kummer US 6,151,479 in view of Mogre et al. US 6,987,543 B1 in view of Eroz et al. US 6,829,308 B2 in view Santoru US 6,975,837 B1 further in view of Tomasz et al. US 6,031,878.

52. As to claim 25, Schaffner (modified by Kummer, Mogre Eroz, and Santoru) teaches the limitations of claim 23.

Schaffner (modified by Kummer, Mogre Eroz, and Santoru) does not explicitly teach the first functional block includes a the CMOS (Complementary Metal Oxide Semiconductor) satellite tuner; a satellite signal, the CMOS satellite tuner that is operable to perform tuning and down-converting of the satellite signal to generate an analog baseband signal having I, Q (In-phase, Quadrature) components; the analog baseband signal is the first signal; the analog baseband signal is provided from the CMOS satellite tuner that is operable to decode the analog baseband signal thereby generating a decoded baseband signal; the DVB encoder/modulator receives the decoded baseband signal and generates a digital DVB signal; the digital DVB signal is the second signal; an up-converter functional block that is operable to up-convert the

analog IF signal to an L-band signal having a frequency in a range of 950 MHz to 2150 MHz; and the L-band signal is a DVB STB (Set Top Box) compatible signal.

Tomasz teaches a CMOS (Complementary Metal Oxide Semiconductor) satellite tuner that is operable to perform tuning and down-converting [abstract; col. 2 lines 15-32] of the satellite signal to generate an analog baseband signal having I, Q (In-phase, Quadrature) components; [abstract; col. 2 lines 15-32; col. 4 lines 8-21] an up-converter functional block that is operable to up-convert the analog IF signal to an L-band signal having a frequency in a range of 950 MHz to 2150 MHz; [abstract; col. 1 lines 30-40; col. 4 lines 20-21; col. 3 lines 2-3] and the L-band signal is a DVB STB (Set Top Box) compatible signal. [abstract; col. 1 lines 30-40; col. 5 lines 23-33]

It would have been obvious to one of ordinary skill in the art at the invention was made to combine the teachings of Tomasz with the device Schaffner (modified by Kummer, Mogre Eroz, and Santoru) allowing for improved image quality.

53. Claims 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schaffner et al. US 6,104,908 in view of Kummer US 6,151,479 in view of Mogre et al. US 6,987,543 B1 in view of Eroz et al. US 6,829,308 B2 in view Santoru US 6,975,837 B1 in view of Tomasz et al. US 6,031,878 further in view of Gurantz et al. US 7,130,576 B1.

54. As to claim 26, Schaffner (modified by Kummer, Mogre Eroz, Santoru, and Tomasz) teaches the limitations of claim 25.

Schaffner (modified by Kummer, Mogre Eroz, Santoru, and Tomasz) does not explicitly teach a microcontroller or a state machine that is operable to coordinate the communication and control of a STB (Set Top Box), to which the transcoder is communicatively coupled, and an LNB (Low Noise Block Converter) of a satellite dish to which the transcoder is also communicatively coupled.

Gurantz teaches a microcontroller or a state machine [fig. 2 (255); col. 4 lines 35-40] that is operable to coordinate the communication and control of a Set Top Box (STB), [fig. 2 (240); col. 4 lines 42-50; col. 6 line 62 - col. 7 line 2] to which the transcoder is communicatively coupled, and an LNB (Low Noise Block Converter). [fig. 2; col. 4 lines 27-40; fig. 3; col. 5 lines 31-42]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Gurantz with the device of Schaffner (modified by Kummer, Mogre Eroz, Santoru, and Tomasz) allowing for improved bandwidth usage.

55. As to claim 27, Schaffner (modified by Kummer, Mogre Eroz, Santoru, Tomasz, and Gurantz) teaches a first transceiver that interfaces the microcontroller or a state machine [Gurantz - fig. 2 (255); col. 4 lines 35-40] to the LNB; [Gurantz - fig. 2; col. 4 lines 27-40] and a second transceiver that interfaces the microcontroller or a state machine [Gurantz - fig. 2 (255); col. 4 lines 35-40] to the STB. [Gurantz - fig. 2 (240); col. 4 lines 42-50; col. 6 line 62 - col. 7 line 2]

56. As to claim 28, Schaffner (modified by Kummer, Mogre Eroz, Santoru, Tomasz, and Gurantz) teaches each of the first transceiver and the second transceiver is a DiSEqC (Digital Satellite Equipment Control) transceiver. [Gurantz- col. 10 lines 6-18]

57. Claims 78-79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schaffner et al. US 6,104,908 in view of Kummer US 6,151,479 in view of Mogre et al. US 6,987,543 B1 in view Tilford et al. US 5,915,020 in view of Block et al. US 5,774,497 further in view of Bertram et al. US 6,996,098 B2.

58. As to claim 78, Schaffner (modified by Kummer, Mogre and Tilford) teaches the limitations of claim 76.

Schaffner (modified by Kummer, Mogre and Tilford) does not explicitly teach the first functional block includes a transport processor that includes a PID (Program Identification) filtering functional block, a PCR (Program Clock Reference) time stamp correction functional block, and a null packet insertion functional block; the PID filtering functional block is operable to throw away data in the first signal having the first signal type; the PCR time stamp correction functional block is operable to keep a time base of the first signal having the first signal type constant; the null packet insertion functional block is operable to insert null packets into the second signal having the second signal type thereby ensuring a constant data rate of the second signal having the second signal type.

Block teaches the first functional block includes a transport processor [col. 3 lines 13-15] that includes a PID (Program Identification) filtering functional block, [col. 6 lines 41-

55] a PCR (Program Clock Reference) time stamp correction functional block, [col. 3 lines 58-66; abstract; col. 2 lines 3-14, 30-39; col. 4 lines 11-20] the PID filtering functional block is operable to throw away data in the first signal having the first signal type; the PCR time stamp correction functional block is operable to keep a time base of the first signal having the first signal type constant. [col. 3 line 58 - col. 4 line 3]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Block with the device of Schaffner (modified by Kummer, Mogre and Tilford) allowing for improved signal processing.

Schaffner (modified by Mogre, Tilford, and Block) does not explicitly teach the null packet insertion functional block is operable to insert null packets.

Bertram teaches the null packet insertion functional block is operable to insert null packets. [col. 3 line 58 - col. 4 line 13]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Bertram with the device of Schaffner (modified by Kummer, Mogre, Tilford, and Block) allowing for improved transmission of data.

59. As to claim 79, Schaffner (modified by Kummer, Mogre, Tilford, Block, and Bertram) the transport processor is an MPEG-2 (Motion Picture Expert Group, level 2) transport processor. [Block – col. 3 lines 13-15]

60. Claims 82-83 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schaffner et al. US 6,104,908 in view of Mogre et al. US 6,987,543 B1 in view Kummer US 6,151,479 in view of Eroz et al. US 6,829,308 B2 in view of Block et al. US

5,774,497 in view Santoru US 6,975,837 B1 further in view of Bertram et al. US 6,996,098 B2.

61. As to claim 82, Schaffner (modified by Kummer, Mogre, Eroz and Santoru) teaches the limitations of claim 80.

Schaffner (modified by Kummer, Mogre, Eroz and Santoru) does not explicitly teach the first functional block includes a transport processor that includes a PID (Program Identification) filtering functional block, a PCR (Program Clock Reference) time stamp correction functional block, and a null packet insertion functional block; the PID filtering functional block is operable to throw away data in the first signal having the first signal type; the PCR time stamp correction functional block is operable to keep a time base of the first signal having the first signal type constant; the null packet insertion functional block is operable to insert null packets into the second signal having the second signal type thereby ensuring a constant data rate of the second signal having the second signal type.

Block teaches the first functional block includes a transport processor [col. 3 lines 13-15] that includes a PID (Program Identification) filtering functional block, [col. 6 lines 41-55] a PCR (Program Clock Reference) time stamp correction functional block, [col. 3 lines 58-66; abstract; col. 2 lines 3-14, 30-39; col. 4 lines 11-20] the PID filtering functional block is operable to throw away data in the first signal having the first signal type; the PCR time stamp correction functional block is operable to keep a time base of the first signal having the first signal type constant. [col. 3 line 58 - col. 4 line 3]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Block with the device of Schaffner (modified by Kummer, Mogre, Eroz and Santoru) allowing for improved signal processing.

Schaffner (modified by Kummer, Mogre, Eroz, Santoru and Block) does not explicitly teach the null packet insertion functional block is operable to insert null packets.

Bertram teaches the null packet insertion functional block is operable to insert null packets. [col. 3 line 58 - col. 4 line 13]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Bertram with the device of Schaffner (modified by Kummer, Mogre, Eroz, Santoru and Block) allowing for improved transmission of data.

62. As to claim 83, Schaffner (modified by Kummer, Mogre, Eroz, Santoru, Block and Bertram) teaches the transport processor is an MPEG-2 (Motion Picture Expert Group, level 2) transport processor. [Block – col. 3 lines 13-15]

Conclusion

63. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Morrison US 5,764,298; Goodwin US 6,741,834.

64. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

65. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANNER HOLDER whose telephone number is (571)270-1549. The examiner can normally be reached on M-W, M-W 8 am-3 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Anner Holder/
Examiner, Art Unit 2621

/Tung Vo/
Primary Examiner, Art Unit 2621